In the Claims

1. (Currently Amended): An atomic layer deposition method of forming an ~~oxide comprising~~ oxide-comprising layer on a substrate, comprising:

positioning a substrate within a deposition chamber;

chemisorbing a first species to form a first species monolayer onto the substrate within the deposition chamber from a gaseous first precursor;

contacting the chemisorbed first species with a gaseous second precursor effective to react with the first species to form an oxide of a component of the first species monolayer, the contacting at least in part resulting from flowing O_3 to the deposition chamber, the O_3 being at a temperature of at least 170°C at a location where it is emitted into the deposition chamber; and

successively repeating the chemisorbing and the contacting to form an ~~oxide comprising~~ oxide-comprising layer on the substrate.

2. (Original): The method of claim 1 wherein the O_3 is at a temperature of at least 200°C at the location where it is emitted into the deposition chamber.

3. (Original): The method of claim 1 wherein the O_3 is at a temperature of at least 300°C at the location where it is emitted into the deposition chamber.

4. (Original): The method of claim 1wherein the O_3 is at a temperature of at least 350°C at the location where it is emitted into the deposition chamber.

5. (Original): The method of claim 1 wherein the O_3 is at a temperature of no greater than 600°C at the location where it is emitted into the deposition chamber.

6. (Original): The method of claim 1 wherein the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 350°C during the contacting.

7. (Original): The method of claim 1 wherein the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 400°C during the contacting.

8. (Original): The method of claim 1 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 300°C.

9. (Original): The method of claim 1 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 350°C.

10. (Original): The method of claim 1 wherein,

the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 350°C; and

the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 350°C during the contacting.

11. (Original): The method of claim 1 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 430°C.

12. (Original): The method of claim 11 wherein the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 430°C during the contacting.

13. (Original): The method of claim 1 wherein the gaseous first precursor comprises a metal organic.

14. (Original): The method of claim 1 wherein the O_3 forms O* proximate the substrate which reacts with the chemisorbed first species to form the oxide.

15. (Original): The method of claim 1 wherein the first species monolayer is at a temperature during the contacting, the O_3 being at a temperature at the location where it is emitted into the deposition chamber which is greater than the first species monolayer temperature during the contacting.

16. (Original): The method of claim 1 wherein the O_3 is at a temperature of at least 200°C at the location where it is emitted into the deposition chamber, the O_3 forming O* proximate the substrate which reacts with the chemisorbed first species to form the oxide.

17. (Original): The method of claim 16 wherein the first species monolayer is at a temperature during the contacting, the O_3 being at a temperature at the location where it is emitted into the deposition chamber which is greater than the first species monolayer temperature during the contacting.

18. (Original): The method of claim 1 wherein the O_3 is at a temperature of at least 300°C at the location where it is emitted into the deposition chamber, the O_3 forming O* proximate the substrate which reacts with the chemisorbed first species to form the oxide.

19. (Original): The method of claim 18 wherein the first species monolayer is at a temperature during the contacting, the O_3 being at a temperature at the location where it is emitted into the deposition chamber which is greater than the first species monolayer temperature during the contacting.

20. (Original): The method of claim 1 wherein the contacting at least in part results from flowing a mixture of O_2 and O_3 to the deposition chamber.

21. (Original): The method of claim 1 wherein the O_3 is flowed to the chamber from a conduit, the conduit being void of any external heat source at a location from where it enters the chamber to no greater than one foot upstream.

22. (Currently Amended): An atomic layer deposition method of forming an aluminum ~~oxide comprising~~ oxide-comprising layer on a substrate, comprising:

positioning a substrate within a deposition chamber;

chemisorbing an aluminum comprising first species to form a first species monolayer onto the substrate within the deposition chamber from a gaseous first precursor comprising trimethyl aluminum;

contacting the chemisorbed first species with a gaseous second precursor effective to react with the first species to form aluminum oxide from the first species monolayer, the contacting at least in part resulting from flowing a mixture of O_2 and O_3 to the deposition chamber, the O_2 and O_3 mixture being at a temperature of at least 170°C at a location where it is emitted into the deposition chamber; and

successively repeating the chemisorbing and the contacting to form an aluminum ~~oxide comprising~~ oxide-comprising layer on the substrate.

23. (Original): The method of claim 22 wherein the O_3 is at a temperature of at least 200°C at the location where it is emitted into the deposition chamber.

24. (Original): The method of claim 22 wherein the O_3 is at a temperature of at least 300°C at the location where it is emitted into the deposition chamber.

25. (Original): The method of claim 22 wherein the O_3 is at a temperature of at least 350°C at the location where it is emitted into the deposition chamber.

26. (Original): The method of claim 22 wherein the O_3 is at a temperature of no greater than 600°C at the location where it is emitted into the deposition chamber.

27. (Original): The method of claim 22 wherein the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 350°C during the contacting.

28. (Original): The method of claim 22 wherein the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 400°C during the contacting.

29. (Original): The method of claim 22 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 300°C.

30. (Original): The method of claim 22 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 350°C.

31. (Original): The method of claim 22 wherein,

the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 350°C; and

the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 350°C during the contacting.

32. (Original): The method of claim 22 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 400°C.

33. (Original): The method of claim 22 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 430°C.

34. (Original): The method of claim 33 wherein the substrate is positioned on a substrate heater, the substrate heater being at a temperature of at least 430°C during the contacting.

35. (Original): The method of claim 22 wherein the O_3 forms O* proximate the substrate which reacts with the chemisorbed first species to form the oxide.

36. (Original): he method of claim 22 wherein the first species monolayer is at a temperature during the contacting, the O_3 being at a temperature at the location where it is emitted into the deposition chamber which is greater than the first species monolayer temperature during the contacting.

37. (Original): The method of claim 22 wherein the O_3 is at a temperature of at least 200°C at the location where it is emitted into the deposition chamber, the O_3 forming O* proximate the substrate which reacts with the chemisorbed first species to form the oxide.

38. (Original): The method of claim 37 wherein the first species monolayer is at a temperature during the contacting, the O_3 being at a temperature at the location where it is emitted into the deposition chamber which is greater than the first species monolayer temperature during the contacting.

39. (Original): The method of claim 22 wherein the O_3 is at a temperature of at least 300°C at the location where it is emitted into the deposition chamber, the O_3 forming O* proximate the substrate which reacts with the chemisorbed first species to form the oxide.

40. (Original): The method of claim 39 wherein the first species monolayer is at a temperature during the contacting, the O_3 being at a temperature at the location where it is emitted into the deposition chamber which is greater than the first species monolayer temperature during the contacting.

41. (Original): The method of claim 22 wherein the O_3 is flowed to the chamber from a conduit, the conduit being void of any external heat source at a location from where it enters the chamber to no greater than one foot upstream.

42. (Currently Amended): An atomic layer deposition method of forming an ~~oxide comprising~~ oxide-comprising layer on a substrate, comprising:

positioning a substrate within a deposition chamber;

chemisorbing a first species to form a first species monolayer onto the substrate within the deposition chamber from a gaseous first precursor;

contacting the chemisorbed first species with a gaseous second precursor effective to react with the first species to form an oxide of a component of the first species monolayer, the contacting at least in part resulting from flowing O_3 to the deposition chamber, the O_3 forming O* proximate the substrate which reacts with the chemisorbed first species to form the oxide, the O* proximate the substrate being at a temperature which is greater than that of the first species monolayer on the substrate; and

successively repeating the chemisorbing and the contacting to form an ~~oxide comprising~~ oxide-comprising layer on the substrate.

43. (Original): The method of claim 42 wherein the O* proximate the substrate is at a temperature which is at least 25°C greater than that of the first species monolayer on the substrate.

44. (Original): The method of claim 42 wherein the O* proximate the substrate is at a temperature which is at least 50°C greater than that of the first species monolayer on the substrate.

45. (Original): The method of claim 42 wherein the O* proximate the substrate is at a temperature which is at least 75°C greater than that of the first species monolayer on the substrate.

46. (Original): The method of claim 42 wherein the O* proximate the substrate is at a temperature which is at least 100°C greater than that of the first species monolayer on the substrate.

47. (Original): The method of claim 42 wherein the O* proximate the substrate is at a temperature which is from 25°C to 150°C greater than that of the first species monolayer on the substrate.

48. (Original): The method of claim 42 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 300°C.

49. (Original): The method of claim 42 wherein the deposition chamber comprises a lid heat source, the contacting occurring while the lid heat source is heated to a temperature of at least 400°C.

50. (Original): The method of claim 42 wherein the contacting at least in part results from flowing a mixture of O_2 and O_3 to the deposition chamber.

51. (Original): The method of claim 42 wherein the gaseous first precursor comprises trimethyl aluminum, and the oxide comprises aluminum oxide.

52. (Original): The method of claim 42 wherein the O_3 is at a temperature of at least 170°C at a location where it is emitted into the deposition chamber.

53. (Currently Amended): An atomic layer deposition method of forming an ~~oxide comprising~~ oxide-comprising layer on a substrate, comprising:

positioning a substrate within a deposition chamber, the deposition chamber comprising a substrate heater and at least one chamber wall heater;

chemisorbing a first species to form a first species monolayer onto the substrate within the deposition chamber from a gaseous first precursor;

contacting the chemisorbed first species with a gaseous second precursor effective to react with the first species to form an oxide of a component of the first species monolayer, the contacting at least in part resulting from flowing O_3 to the deposition chamber, the substrate heater being at a temperature of at least 350°C and the at least one wall heater being at a temperature of at least 350°C during the contacting; and

successively repeating the chemisorbing and the contacting to form an ~~oxide comprising~~ oxide-comprising layer on the substrate.

54. (Original): The method of claim 53 wherein the substrate heater is at a temperature of at least 400°C and the at least one wall heater being at a temperature of at least 400°C during the contacting.

55. (Original): The method of claim 53 wherein the substrate heater is at a temperature of at least 430°C and the at least one wall heater being at a temperature of at least 430°C during the contacting.

56. (Original): The method of claim 53 wherein the at least one wall heater comprises a lid heated to at least 350°C.

57. (Original): The method of claim 53 wherein the O_3 is at a temperature of at least 170°C at a location where it is emitted into the deposition chamber.